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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 10/024,114 | 12/18/2001 | David Henry Solomon | 56104576-49 | 3501 |

7590 04/04/2003

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EXAMINER

PEZZUTO, HELEN LEE

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ART UNIT PAPER NUMBER

1713

DATE MAILED: 04/04/2003

11

Please find below and/or attached an Office communication concerning this application or proceeding.

| | | | |
|------------------------------|------------------------------|---------------------|--|
| Office Action Summary | Application No. | Applicant(s) | |
| | 10/024,114 | SOLOMON ET AL. | |
| | Examiner Helen L. Pezzuto | Art Unit 1713 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on 12 March 2003.
 2a) This action is FINAL. 2b) This action is non-final.
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 1-46 is/are pending in the application.
 4a) Of the above claim(s) 20-46 is/are withdrawn from consideration.
 5) Claim(s) _____ is/are allowed.
 6) Claim(s) 1-19 is/are rejected.
 7) Claim(s) _____ is/are objected to.
 8) Claim(s) 1-46 are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
 10) The drawing(s) filed on _____ is/are: a) accepted or b) objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 11) The proposed drawing correction filed on _____ is: a) approved b) disapproved by the Examiner.
 If approved, corrected drawings are required in reply to this Office action.
 12) The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
 * See the attached detailed Office action for a list of the certified copies not received.
 14) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
 a) The translation of the foreign language provisional application has been received.
 15) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Election/Restrictions

1. Applicant's election of Group I, claims 1-19 in Paper No. 10 is acknowledged. Because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse (MPEP § 818.03(a)).

The requirement is still deemed proper and is therefore made FINAL.

2. Claims 20-46 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected inventions, there being no allowable generic or linking claim. Election was made without traverse in Paper No. 10.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claim 2 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and

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distinctly claim the subject matter which applicant regards as the invention.

It is unclear as to which component, the monomer or crosslinker corresponds to r_1 and r_2 as expressed in claim 2. Please clarify.

Claim Rejections - 35 USC § 102

5. . The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

6. Claims 1-13, 16, and 19 are rejected under 35 U.S.C. 102(b) as being anticipated by Shorr et al. (US-517).

U.S. 5,055,517 to Shorr et al. discloses an electrophoretic media comprising crosslinked polymer gel derived from N,N-dimethylacrylamide and/or it's copolymer with other ethylenically unsaturated carboxyl group-containing monomers, as represented by formula (I), and

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(V), respectively (see abstract, col. 3, line 56 to col. 4, line 66). The instant at least one monomer recited in claims 11-13 clearly fall within the scope of prior art monomers (I) and (V). Prior art exemplifies hydroxyethyl methacrylate with N,N-dimethylacrylamide which meets the terms of the non-acrylamide, ester type system as expressed in claim 16. Furthermore, prior art crosslinking monomer is represented by formula (VI), employed in an amount of 1-30 wt% which clearly encompass those expressed in the instant claims 4, 7-10. The examiner takes the position that the recited high optical clarity in claim 19 is inherent in prior art polymer gel since identical reactants are employed. Thus, anticipating the instant claims.

7. Claims 1-16, and 19 are rejected under 35 U.S.C. 102(b) as being anticipated by Haacke et al. (US-781).

U.S. 5,368,781 to Haacke et al. discloses a tunable, radiation filter comprising a highly ordered crystalline array of microparticles fixed in a polymerized and crosslinked hydrogel, derived from combinations of acrylamide and crosslinking monomers. Prior art further suggest partial replacement of acrylamide with up to 70 wt% of a water soluble comonomer or mixtures thereof, including hydroxyethylmethacrylates (col. 3, lines 46-57). Suitable

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crosslinking agent used in prior art hydrogel include the instantly preferred methylenebisacrylamide as expressed in claim 14, in the recited amount (col. 3, line 58 to col. 4, line 12; working examples). The optical clarity recited in claim 19 would be an inherent property in prior art hydrogel since identical reactants are employed. Thus, meeting the instant claims.

8. Claims 1-19 are rejected under 35 U.S.C. 102(e) as being anticipated by Van Turnhout (US-201) or Huttermann et al. (US-441).

U.S. 6,044,201 to Van Turnhout discloses a storage device Comprising a hydrogel formed from a crosslinked hydrophilic polymer, preferably derived from (meth)acrylamide and hydroxyalkyl (meth)acrylate (col. 2, lines 23-45) as instantly claimed. Prior art hydrogel is crosslinked with 0.1-2 wt% of a crosslinking agent, including oxydiethylene dimethacrylate and methylenebismethacrylamide as expressed in the instant claims 14 and 17 (col. 2, lines 46-54). Thus, meeting the recited claims.

U.S. 6,484,441 to Huttermann et al. discloses a method of treating acidic soil with a crosslinked hydrogel derived from poly(meth)acrylates. Prior art poly(meth)acrylates include the instant acrylamide and/or derivatives thereof, and hydroxyethyl (meth)acrylates (col. 2, lines 9-36). Suitable crosslinking

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agents used in an amount of 0.01-2.5 wt%, include the instantly recited methylenebismethacrylamide, and ethyleneglycol di(meth)acrylate, clearly anticipating the instant claims.

Claim Rejections - 35 USC § 103

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

10. Claims 14-15, 17-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shorr et al. (US-517) as discussed in paragraph No. 6 above and further in view of the following.

Although the instant system of acrylamide systems are not expressly exemplified in the reference. Prior art formula (V) encompass acrylamide when R₄ is -NR₈R₉, wherein R₈ and R₉ are independently H (col. 4, lines 47-66).

Furthermore, the instant ethyleneglycol dimethacrylate, methylenebismethylacrylamide and 2-hydroxyethyl methacrylate as expressed in claims 14-15 fall within the scope of the prior art crosslinking monomer represented by formula (VI). Hence, it would have been obvious to one

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skilled in the art to employ a system comprising acrylamide and/or ester type monomer with a crosslinking agent embodied by formula (VI) as disclosed and suggested in the reference with the reasonable expectation of success as taught.

11. Claims 17-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Haacke et al. (US-781) as discussed in paragraph No. 7 above and further in light of the following remarks.

Prior art does not expressly exemplify the combined system as recited. However, the reference does, disclose and suggest partial replacement of acrylamide with up to 70 wt% of a water soluble monomer such as hydroxyethyl methacrylic acid ester (col. 3, lines 46-57) which clearly encompass the ester type system as expressed in claims 17-18, because the language of which do not exclude the presence of acrylamide. Furthermore, prior art is not particularly limited to using methylenebisacrylamide as the only suitable crosslinking agent (col. 3, line 58 to col. 4, line 12), so long as the appropriate ratios are employed so as to maintain the structural integrity of the resulting hydrogel. Since one skilled in the polymer art would recognize that the recited crosslinking agents are well

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known and considered functionally equivalents to methylenebisacrylamide (see the texts of the other prior art references discussed above), it would have been obvious and fully within the purview of one skilled in the art to employ a ester type system comprising permutation of these known crosslinking agents, forming a hydrogel under the general conditions of prior art with the reasonable expectation of success. Absent a showing of criticality of the recited combination with respect to hydrogel properties.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Helen L. Pezzuto whose telephone number is (703) 308-2393. The examiner can normally be reached on 8 AM to 4 PM, Monday thru Friday.

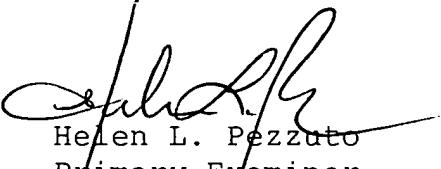
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Wu can be reached on (703) 308-2450. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9310 for regular communications and (703) 892-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.

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Helen L. Pezzuto
Primary Examiner
Art Unit 1713

hlp
March 31, 2003